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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/715,119

11/18/2003

Kiyohito Mukai

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24257

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08/08/2006

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EXAMINER

DOAN, NGHIA M

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 08/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/715,119	MUKAI ET AL.	
	Examiner	Art Unit	
	Nghia M. Doan	2825	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,18 and 19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. Responsive to communication application 10/715,119 filed on 11/18/2005, and RCE filed on 07/12/2006, claims 1-2 and 18-19 are pending.

Claim 1 has been amended.

Claims 18 and 19 have been added.

***Claim Objections***

2. Claims 18-19 are objected to because of the following informalities:

As per claim 18, replaces "total area concentration" with "total area of the contact holes".

As per claim 19, "total number concentration" with "total number concentration of the contact holes".

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

3. Claims 1-2 and 18-19 are rejected under 35 USC 101 because the claimed invention is directed to non-statutory subject matter. The claims are listed an abstract idea of a method for wiring inspection without concreteness and tangible result from the claimed invention. Therefore, the listed a functional material is non-statutory, MPEP 2106.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Claim 1 does not define that how to perform the step of detecting wiring defects and what is a parameter, a range, a threshold value, or predetermined value for determining the wirings defective to compare with the concentration of contact holes? This is a single mean of or single step of detecting wiring defected by checking the concentration of contact holes in said wires of the chip layout. Therefore, the claims 1 fails to recite any functional, structural, or processing the limitation of claimed invention to get the result.

Moreover, claim 2 recites "wire formation defects have been detected is correct". Claim 2 fails to define any functional or structural of how determining that " the wire formation defects have been detected is correct".

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-2 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Lukanc (US Patent 6,615,400).

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8. With respect to claim 1, Lukanc discloses a semiconductor device layout inspection method for inspecting formation defects (*exceed defect generation during inspection results*) that will occur in wires (*metal lines*) of a chip layout, wherein the wire formation defects are detected by checking the concentration of contact holes (*vias*) in said wires of the chip layout (*col. 1, ll. 56-62; col. 2, ll. 4-30 and ll. 32-38; col. 4, ll. 4-13; and col. 6, ll. 37-51*).

9. With respect to claim 2, Lukanc discloses the semiconductor device layout inspection method according to Claim 1, wherein the layout of wires where wire formation defects have been detected is corrected (*col. 2, ll. 32-38 and col. 6, ll. 37-51*).

10. With respect to claim 18, Lukanc discloses the semiconductor device layout inspection method according to Claim 1, wherein the concentration is a total area concentration (*total area of vias*) (*col. 2, ll. 48-53, ll. 57-62*).

11. With respect to claim 19, Lukanc discloses the semiconductor device layout inspection method according to Claim 1, wherein the concentration is a total number concentration (*total number of vias*) (*col. 1, ll. 59-62; col. 2, ll. 40-47; and col. 4, ll. 5-7*).

### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghia M. Doan whose telephone number is 571-272-5973. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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